BEST AVAILABLE COPY

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 11-177725

(43)Date of publication of application : 02.07.1999

(51)Int.Cl. H04M 15/00
H04Q 7/38
H04M 15/28

(21)Application number : 09-346650 (71)Applicant : HITACHI INFORMATION SYSTEMS LTD

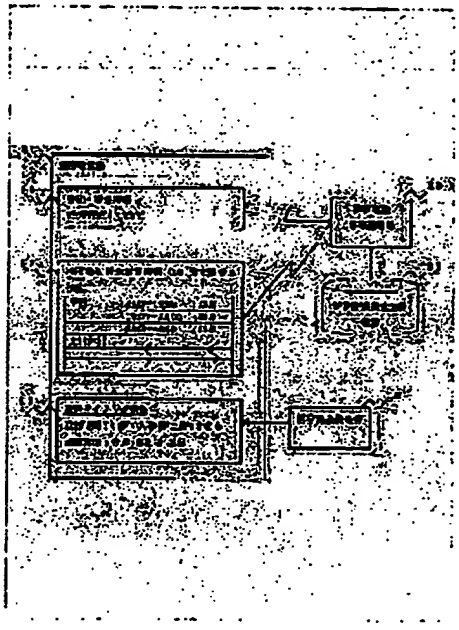
(22)Date of filing : 16.12.1997 (72)Inventor : KAHATA RYOICHI

(54) CHARGE NOTICE SYSTEM FOR PORTABLE TELEPHONE SET

(57)Abstract:

PROBLEM TO BE SOLVED: To save speech charge for a user of a portable telephone set by informing of the timing of additional charges during a speech through the sound or the vibration of a portable telephone set main body.

SOLUTION: A portable telephone set 10 at the time of charging a power source receives the time zone different charge addition information 21 of a portable telephone set ratio base station 20 through a radio wave and stores the information to a time zone different charge addition information storage section 12. Furthermore, a clock adjust signal sent from the portable telephone set radio base station 20 corrects a date and time information 11 of the portable telephone set 10. Moreover, a user of the portable telephone set sets timing designation information and a notice method of information of charge addition to a notice timing information storage section 13. When a speech is started, a charge addition second number is acquired from the date and the time information 11 of the portable telephone set 10 and the information of the time zone different charge addition information storage section 12, notice timing is calculated from '(charge added number of seconds)-(notice time of notice timing information storage section 13)' and the charge addition is reported by sound or vibration for every interval.



* NOTICES *

Japan Patent Office is not responsible for any
damages caused by the use of this translation.

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] They are a portable telephone concerning 1 operation gestalt of this invention, and the structure-of-a-system Fig. which consists of a wireless base station.
[Drawing 2] It is the flowchart Fig. in 1 operation gestalt of this invention showing the example of a procedure of the notice of tariff addition timing.
[Description of Notations]
10 Portable Telephone
11 Date and Time Information
12 Tariff Addition Information Storing Section Classified by Time Zone
13 Notice Timing Information Storing Section
20 Cellular-Phone Base Transceiver Station
21 Tariff Addition Information Classified by Time Zone, and Date and Time Information
30 Cell Phone User

[Translation done.]

* NOTICES *

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to the method which notifies tariff addition information during a message in a cellular phone.
[0002]
[Description of the Prior Art] The spread of cellular phones is a time which there is a remarkable thing and one person owns in four persons in recent years. There are various functions in the latest cellular phone, and there are some which a telephone is vibrated and tell a user arrival of the mail instead of being a ringer tone. Usually, the check of the phonecall charges of a cellular phone can be checked by displaying phonecall charges on a display by inputting a command at the time of message termination, although there is a difference in some by each cellular-phone terminal manufacturer or the cellular phone company.
[0003] Moreover, the technique about the portable telephone which had the function to obtain exact time of day in JP,9-18959,A is indicated. if it explains to a detail -- a base transceiver station -- a time check -- while establishing a means, the information data memory which memorizes the database for bases is prepared, and data information, such as an event peculiar to the area for every base station of the base transceiver station which has more than one, traffic information, and base station information, is memorized. therefore, the thing for which a personal digital assistant accesses a base transceiver station -- easy -- the time check of a base station -- time-of-day data can be obtained from a means.
[0004]
[Problem(s) to be Solved by the Invention] Although the phonecall charges of a cellular phone are based also on the tariff plan which each cellular phone company offers, if it says from the side which the present condition is that about 50 yen takes a weekday for 1 minute (September, Heisei 9 current), and uses a telephone, it is just going to worry phonecall charges very much. Although the check of current phonecall charges is based also on a cellular-phone terminal, it is common to refer to the duration of a call displayed by the display during a message, and to estimate it, or to check phonecall charges by the command input after message termination etc. However, the present condition is that it cannot be grasped when a tariff is added during a message. Although the symptom of the phonecall charges indicated by the above-mentioned Prior art is performed by displaying a tariff on a display by command input, it cannot be checked during cellular-phone use.
[0005] Therefore, the purpose of this invention is solving the trouble of the above-mentioned conventional technique, and while using a cellular phone, it is by notifying the addition timing of phonecall charges to enable saving of a cell phone user's phonecall charges.
[0006]
[Means for Solving the Problem] In order to attain the above-mentioned purpose, in this invention, vibration of a sound or the body of a portable telephone notifies the timing of tariff addition during a message. It is usually that the number of seconds which can talk over the telephone for 10 yen changes with time zones in a cellular phone. Then, the tariff addition information classified by time zone is

acquired by the electric wave from a cellular-phone base transceiver station, and information is stored in a cellular-phone terminal. Moreover, in order to set correctly the clock (the date is included) of the body of a cellular phone, a clock adjustment signal is transmitted from a cellular-phone base transceiver station, and it performs clock doubling automatically at a cellular-phone terminal. The cell phone user sets the notice timing (before [how many seconds] the tariff add time are you told about?) beforehand notified by the sound or vibration as the portable telephone. And if a message is started, the number of tariff addition seconds will be deduced from the time of day of a clock and a date, and the tariff addition information classified by time zone, and a message person will be notified of tariff addition by the sound or vibration at notice timing.

[0007]

[Embodiment of the Invention] Hereafter, the gestalt of operation of this invention is explained to a detail using a drawing. Drawing 1 is a portable telephone concerning 1 operation gestalt of this invention, and a structure-of-a-system Fig. which consists of a wireless base station. drawing 1 -- setting -- 10 -- a portable telephone, and 11, 12 and 13 -- the portable telephone 10 interior -- respectively -- a date and time information, the tariff addition information storing section classified by time zone, and the notice timing information storing section -- it is . Moreover, it is the tariff addition information classified by time zone, and the date and time information in which a wireless base station has 20 and a wireless base station 20 has 21, and 30 is a cell phone user. In addition, the portable telephone 10 of this operation gestalt has the function which notifies the timing of tariff addition by vibration of a sound or the body of a portable telephone.

[0008] Next, the operation procedure of this operation gestalt is explained according to the flowchart of drawing 2 . A portable telephone 10 receives the tariff addition information 21 classified by time zone on a wireless base station 20 to a power up by the electric wave, and stores information in it at the tariff addition information storing section 12 classified by time zone (step 101). Moreover, since exact time information is required to acquire the number of tariff addition seconds from the tariff addition information storing section 12 classified by time zone at the time of message initiation, the clock adjustment signal transmitted from the cellular-phone base transceiver station 20 amends the date and time information 11 of a portable telephone 10 (step 102). Moreover, the cell phone user sets the timing assignment information and the notice approach (before [how many seconds] tariff addition shall you notify, and by which shall notify between a sound and vibration?) of notifying tariff addition as the notice timing information storing section 13 (step 103).

[0009] And if a message is started (step 104), the number of tariff addition seconds will be acquired from the date and the time information 11 of a portable telephone 10, and the information on the tariff addition information storing section 12 classified by time zone, notice timing (second) will be calculated from "- (the number of tariff addition seconds) (the number of notice time amount of the notice timing information storing section 13)" (step 105), and a sound or vibration will notify tariff addition for every spacing of the (steps 106 and 107). If a message is completed, the processing flow of the notice of timing of tariff addition will be ended (if set to YES at step 107).

[0010]

[Effect of the Invention] As mentioned above, according to this invention, since the timing of tariff addition can be known without separating a portable telephone from a lug during a message, a cell phone user becomes possible [saving phonecall charges]. Moreover, a cell phone user considers phonecall charges and comes to tell them for a short time against the main point about which it should speak. Consequently, a telephone will be hung up early and it leads also to the dissolution of a busy condition, and effective use of an electric wave.

[Translation done.]